Amendments to the Specification:

Please replace the paragraph beginning at page 1, line 4, with the following rewritten paragraph:

-- This invention relates to the production of hydrogen, and in particular to a thermocatalytic process and apparatus for drastically reduced carbon dioxide emission in the production of hydrogen and carbon from fossil fuels and is a divisional of U. S. Patent Application Serial No.: 09/824,437 filed April 02, 2001, now U.S. Patent No. 6,670,058 which claims the benefit of priority of U.S. Provisional Application Serial No.: 60/194,828 filed April 4, 2000. --

Please add the following new paragraph after the paragraph ending on line 27 of page 5:

-- Each numerically identified element of the apparatus in Figures 1 and 2 is described below:

1 – the reactor wherein the thermocatalytic decomposition of hydrocarbon fuels is accomplished on a moving bed using carbon-based catalysts. The reactor is interchangeably referred to herein as, "thermocatalytic reactor", "fluidized bed reactor", "catalytic reactor" and "reactor."

2 - cyclone

3 - heat exchanger

4 – gas separation unit

5 - grinder

6 - heater

7 – fuel cell

8 – membrane gas separation unit

9 – anode compartment